

REMARKS

In response to the Official Action mailed on February 19, 2008, the application has been amended. No new matter has been added. Reconsideration of the rejections of the claims is respectfully requested in view of the above amendments and the following remarks.

In paragraph 3 of the Official Action, claims 62, 63, 85, 90, 91, 93, and 95 - 102 were rejected under 35 USC 103(a) as unpatentable over Tygard (U.S. Patent No. 5,516,255) in view of Pierre (U.S. Patent No. 3,044,819). This rejection is respectfully traversed.

As discussed previously, Tygard discloses a clamping apparatus having a plurality of opposing clamping arms pivotably mounted on a frame. Each clamping arm is equipped with a contact portion for contacting a side of a load to be lifted. The contact portions may be pivotably mounted on the lower ends of the clamping arms, but there is no mechanism for controlling the angle of the contact portions with respect to the vertical.

Pierre discloses a sheet-metal handling apparatus having hook-carrying arms 1 - 4 supported at the lower ends of parallel links 9 - 16 which enable the arms 1 - 4 to move towards and away from each other while remaining parallel.

According to the Official Action, it would have been obvious to have modified the apparatus of Tygard to utilize a four-bar linkage to control the angle of the contact portion of each

clamping arm as shown by Pierre because this would be a more effective means of maintaining the arms at a constant angle and thus enabling the clamping arms to properly pick up loads of varying size.

This argument is not reasonable on account of the significant differences between the device of Tygard and the device of Pierre.

Firstly, there is a basic difference in the intended uses of the devices of Tygard and Pierre. The clamping apparatus of Tygard is intended primarily for lifting layers of objects such as cases of soft drink cans or bottles from a pallet, while the device of Pierre is intended for use in lifting of large flat objects such as sheet metal stacks, steel bars, tubes, paper rolls, logs, and vehicles (column 4, lines 30 - 31 of Pierre). In light of this difference alone, a person working in the field of Tygard would not have considered the teachings of Pierre to have any relevance.

Just as important are the fundamental differences in the manner in which the two devices operate. The clamping apparatus disclosed in Tygard is a device which supports a load by means of the friction between gripping pads at the bottom of clamping arms and the sides of the load.

Pierre, in contrast, supports a load by inserting hook-like portions 5 - 8 disposed at the lower ends of arms 1 - 4 underneath the load and resting the load atop the hook-like portions. The arms 1 - 4 have vertical surfaces which presumably can contact the edges of a load which is resting atop the hook-

like portions 5 - 8, but these vertical surfaces play no roll in supporting the weight of the load. Indeed, given the nature of the loads to be handled in Pierre, it would be inconceivable to try to use these surfaces to support the weight of a load by friction between the sides of the load and these surfaces. These surfaces are essentially a means to connect the hook-like portions 5 - 8 to parallel links 9 - 16.

Column 1, lines 37 - 39 of Pierre state that the use of parallel-link system enables gripping hooks (the hook-like portions 5 - 8) to always have the same inclination irrespective of the relative spacing of two assemblies, i.e., two assemblies of hook-carrying arms. However, Pierre does not state why it is desirable for the gripping hooks to always have the same inclination, and since Tygard does not employ gripping hooks to support a load from below, Tygard does not include any components that it would be obvious from Pierre to maintain at a constant inclination, and therefore no components that it would be obvious from Pierre to install on a parallel-link system.

As stated in the response filed in October 31, 2007, Tygard does not teach or suggest any advantage to maintaining gripping surfaces at a constant angle to the vertical. Tygard discloses an embodiment in which panels 40 for gripping a load can be pivoted about pivot points 43, and column 6, lines 43 - 45 of Tygard state that "Since the panels 40 are pivotable about pivot points 43, they can always remain parallel to the sides of the layer which is to be lifted." This statement merely means that Tygard desires for the panels 40 to lie flat against the sides of

a load, whatever the inclination of the sides, and there is no statement in Tygard that there is any desire to have the panels 40 maintain a constant angle as the clamping arms pivot.

Whatever advantage there is in Pierre of maintaining the hook-like portions 5 - 8 at a constant angle (and Pierre does not state what this advantage is), no advantage to applying this feature to Tygard can be found in either Pierre or Tygard.

For the above reasons, a person skilled in the art would have seen no reason for or advantage to combining Tygard and Pierre as proposed by the Official Action. Therefore, the rejections of claims 62, 63, 85, 90, 91, 93, and 95 - 102 fail to set forth a *prima facie* case of obviousness. These claims are therefore allowable.

In paragraph 4 of the Official Action, claims 92 and 103 were rejected as unpatentable over Tygard in view of Pierre and further in view of Guignard et al (U.S. Patent No. 2,348,899, referred to below as Guignard). This rejection is respectfully traversed because a person skilled in the art would have found no reason to combine the references in the manner proposed by the Official Action.

As discussed above, the proposed modification of Tygard based on Pierre is not reasonable because there is no motivation to combine Tygard and Pierre in the manner proposed by the Official Action. Even if it were reasonable to combine Tygard with Pierre as proposed in the Official Action to provide Tygard

with a four-bar linkage, further combining these references with Guignard would not be reasonable for the following reasons.

Guignard discloses a loader for lifting, carrying, etc. articles such as boxes using load carrying forks 42 and 43. The forks 42, 43 are mounted on a fork frame 38, which is pivotably mounted on upper and lower parallel arms 25 - 28. The angle of the forks 42 with respect to the horizontal can be adjusted either by a bell-crank mechanism (in the embodiment of Figure 1) or by a hydraulic ram 91 incorporated into a plurality of the arms 25 - 28 (in the embodiment of Figure 4).

According to the Official Action, it would have been obvious to have modified the apparatus of Tygard to add a tilting mechanism as taught by Guignard as "this would be a desirable feature for improved pick up and depositing of heavy but fragile goods".

A person skilled in the art would not have been motivated to combine the cited references in this manner because the reasons for providing a tilting mechanism in Guignard are absent from Tygard, whether or not Tygard is combined with Pierre. Firstly, Guignard relates to a device for carrying a load with forks 42, 43. As is customary with devices of this type, a load is not grasped but merely rests atop the forks, with the only lateral support being provided when one side of the load happens to rest against the upwardly turned ends 69 of the forks 42, 43. Since there is no structure for securing a load atop the forks, the only way to prevent a load from sliding or falling off the forks when an external force is applied to the load, or to assist the

load in disengaging from the forks when it is desired to discharge the load, is by tilting the forks. For example, as stated on page 2, right column, line 61 - 75 of Guignard, the forward ends of the forks may be tilted upwardly in order to more securely hold a load in place on the forks during transport, while the forward ends of the forks may be tilted downwardly to aid in depositing a load. This ability to tilt forks upwards when supporting a load and tilting forks downwards when discharging a load is a common feature of conventional fork lifts.

In contrast, the clamping apparatus of Tygard grips a load from opposite sides with panels 40 rather than simply providing a support surface below a load. Therefore, a load is prevented from falling from the clamping apparatus by the gripping force exerted by the panels 40. Furthermore, when an object needs to be released by the clamping apparatus, it is sufficient to simply move the panels 40 away from each other. The problem of a load inadvertently sliding or dropping off of forks or of failing to disengage from forks when desired is one that cannot occur with the device of Tygard. As such, the whole reason for providing a tilting mechanism in Guignard is completely missing from Tygard.

Paragraph 4 of the Official Action cites page 3, first column, lines 5 - 10 of Guignard, which state that

All of the adjustments both as to elevating or lowering the load and tilting it forwardly or rearwardly may be carried out with great nicety and delicacy of control making it possible to handle heavy but fragile goods with great ease and facilitating loading or unloading operations of all

kinds.

The Official Action views this passage as a reason why a person skilled in the art would modify Tygard (if it had a parallel-link mechanism like that shown in Pierre) to have a tilting mechanism. However, this passage refers to the manner in which elevating or titling of a load is carried out in Guignard and cannot be viewed as a statement that every device should have a mechanism for elevating or tilting a load. Furthermore, this passage must be read in the context of Guignard, which pertains to a device using forks inserted beneath a load from a single side in order to support the load. As stated above, it is a given that in devices such as Guignard (or fork lifts) which employ forks to support a load from below in this manner, it is useful to be able to control the angle of the forks. It does not follow from Guignard that a mechanism for tilting a fork provides any advantage in an apparatus which does not employ forks for supporting a load, such as the clamping device of Tygard. As such, a person skilled in the art would not find any relevance of the cited passage in Guignard to the device of Tygard, whether Tygard is considered alone or as modified by Pierre. Thus, as the reasons why Guignard employs hydraulic rams 91 to adjust the angles of forks 42, 43 in Figure 4 are inapplicable to the device of Tygard, a person skilled in the art would find no motivation to modify Tygard in the manner proposed in the Official Action. As such, the rejection fails to set forth a *prima facie* case of obviousness of claims 92 and 103. These claims are therefore allowable.

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Concerning claim 92, page 5 of the Official Action states that the angle of slope of the contact portion set forth in this claim "would have been an obvious design expediency based on the characteristics of the load to be handled". As set forth previously in the response filed on March 27, 2007, describing a feature as a "design expediency" does not automatically render that feature obvious. Since every feature of a claim is a result of a design by the inventor, the fact that a feature has been designed cannot render that feature obvious, for this would render every feature of a claim obvious. Whether a feature is "expedient" also does not determine whether a feature is obvious, for if a feature were not expedient, there would be no reason for the feature to be part of an invention. Whether a feature is a matter of "design" or whether it is "expedient" is not the proper criterion for obviousness. The appropriate inquiry is whether the prior art cited by the Official Action teaches or suggests the recited feature.

As set forth on page 14 of the specification of the present application, when a load being grasped by a clamping apparatus according to the present invention comprises cases of beverages, sloping the inner surface of the contact portions 130 by 2 - 6° with respect to the side of the load enables the contact portions to more effectively grasp the sides of the load. There is no teaching or suggestion in the cited references concerning such an advantage, so there is nothing in the references to motivate a person skilled in the art to modify the references so as to have the features set forth in claim 92. As such, the rejection of

claim 92 does not set forth a *prima facie* case of obviousness. Claim 92 is therefore allowable.

The previous amendment filed on October 31, 2007 was accompanied by a declaration of commercial success by the inventor. That declaration described the significant commercial success of the present invention and why that commercial success can be attributed solely to the technical features set forth in the claims of this application.

Pages 5 and 6 of the Official Action identified the following shortcomings in that declaration:

(1) The Examiner felt that the declaration did not set forth a sufficient nexus between the invention and the individual claims of the application. Specifically, it was not clear to the Examiner exactly what elements the invention as sold consisted of as compared to the individual claims set forth in the application.

(2) The Examiner felt that the declaration needed to show that commercial success of the applicant's invention was not attributable to factors such as a lack of appreciation for the marketability of such a device in the soft drink, beer, and grocery industries rather than the lack of the technical knowledge necessary to construct the device.

(3) The Examiner felt that the improved sales figures presented in the declaration were not overly persuasive since they might conceivably be attributable to other factors such as

incentives or other marketing strategies frequently given to new products, or simply just the "newness" factor of a product which, according to the Official Action, generally results in increased sales.

In order to remedy any possible deficiencies in the previous declaration, the Applicant has prepared a further declaration of commercial success, a copy of which is attached to this response.

To begin with, on pages 2 - 4 of the attached declaration, the Applicant described the features of his commercial embodiments in detail while referring to Attachments A - C, which are line drawings of the commercial embodiments taken from an advertising brochure.

In order to better show the correspondence between the claims of this application and the commercial embodiments, the following tables have been prepared based on the Applicant's description of his commercial embodiments in the attached declaration. The left side of each tables lists the features of independent claims 62, 95, or 96, while the right side of each table indicates the corresponding element of the commercial embodiments. The reference numbers in the tables correspond to the reference numbers in the drawing in Attachment C. Model TC-600 in the tables collectively refers to the Applicant's commercial embodiments shown in Attachments A - C of the declaration.

Only claims 62, 95, and 96 are compared with the commercial embodiments because the features of the invention which have been

responsible for the commercial success of the invention reside in these three claims, so there is no need to discuss all of the pending claims which depend from these claims.

Features of claim 62	Corresponding feature in Model TC-600 (see Attachment C)
62. A clamping apparatus for lifting a rectangular layer of items on a pallet comprising:	clamping apparatus 10 for lifting rectangular layer from load L on pallet P
a frame;	frame 11
four clamping arms pivotably mounted on the frame for pivoting with respect to the frame with a single degree of freedom and positioned on the frame so as to be able to grasp a rectangular layer of items on a pallet from four sides of the layer,	clamping arms 12 each arm 12 pivots with single degree of freedom on frame 11 each arm 12 can grasp rectangular layer from load L stacked on pallet P
each clamping arm including a contact portion for contacting a side of the layer to be lifted,	contact portion 15
each clamping arm defining a four-bar linkage which controls an angle of the contact portion with respect to the vertical as the clamping arm pivots with respect to the frame; and	lever portion 13 and control rod 14 of clamping arm 12, outer end of frame 11, and lug 17 of contact portion 15 define a 4-bar linkage
a plurality of drive mechanisms connected to the clamping arms to pivot the clamping arms with respect to the frame.	hydraulic cylinders 18 pivot clamping arms 12 on frame 11

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Features of claim 95	Corresponding feature in Model TC-600 (see Attachment C)
95. A clamping apparatus for grasping a rectangular layer of items disposed on a pallet comprising:	clamping apparatus 10 for grasping rectangular layer from load L on pallet P
a frame;	frame 11
a pair of opposing clamping arms pivotably mounted on the frame for pivoting with respect to the frame with a single degree of freedom,	clamping arms 12 each arm 12 can pivot with single degree of freedom on frame 11
each clamping arm including a contact portion pivotably disposed at a lower end of the clamping arm for contacting a side surface of a rectangular layer of items,	contact portion 15 provided at bottom of arm 12 can contact rectangular layer of load L
the contact portion having an upper edge, a lower edge, and a substantially planar contact surface extending between the upper and lower edges for contact with a side surface of a layer of items,	contact portion 15 has top, bottom, and planar contact surface
the contact portions of the opposing arms being capable of being spaced from each other by at least 28 inches to enable the clamping apparatus to grasp a layer measuring at least 28 inches on a side,	contact portions 15 of opposing arms 12 can be spaced by at least 28 inches to grasp a rectangular layer
each clamping arm defining a four-bar linkage which controls an angle of the contact portion with respect to the vertical as the clamping arm pivots with respect to the frame; and	lever portion 13 and control rod 14 of clamping arm 12, outer end of frame 11, and lug 17 of contact portion 15 define a 4-bar linkage
at least one drive mechanism connected to one of the clamping arms to pivot the one of the clamping arms with respect to the frame.	hydraulic cylinders 18 pivot clamping arms 12 on frame 11

Features of claim 96	Corresponding feature in Model TC-600 (see Attachment C)
96. A clamping apparatus for lifting a rectangular layer of items from a pallet comprising:	clamping apparatus 10 for lifting rectangular layer from load L on pallet P
a frame;	frame 11
two pairs of opposing clamping arms pivotably mounted on the frame for pivoting with respect to the frame with a single degree of freedom and positioned on the frame so as to be able to grasp a rectangular layer of items on a pallet from four sides of the layer,	clamping arms 12 each arm 12 can pivot on frame 11 with single degree of freedom arms 12 can grasp rectangular layer from load L on pallet P
each clamping arm including a contact portion for contacting a layer to be lifted, and	contact portion 15
a plurality of drive mechanisms connected to the clamping arms to pivot the clamping arms with respect to the frame,	hydraulic cylinders 18 pivot clamping arms 12 on frame 11
wherein for each pair of clamping arms, a separation between the contact portions of the clamping arms of the pair can be made at least 28 inches and can change by at least 4 inches due to pivoting of at least one of the clamping arms of the pair relative to the frame with an angle with respect to the vertical of each contact portion of the pair changing by no more than 2 degrees when the contact portions of the pair are not contacting a layer of items to be lifted.	distance between opposing contact portions 15 can be made at least 28 inches separation between contact portions 15 can be varied by at least 4 inches separation between contact portions 15 can vary by 0 to 16 inches with 0° degree change in angle of contact portions 15 to vertical

The feature of the commercial embodiments that the

separation between opposing contact portions can be changed by any amount from 0 to 16 inches with no change in the angle of the contact portions with respect to the vertical is described on page 3 of the Applicant's declaration of October 26, 2007. If the separation can be changed by 16 inches with no change in the angle of the contact portions 15, it follows that the separation can be changed by four inches with no more than a 2° change in the angle of the contact portions as set forth in claim 96.

In light of the above comparison, it is believed that the Applicant has clearly established that the commercial embodiments which have enjoyed commercial success are covered by the claims of the present application.

The issue of which features of the present invention are responsible for the commercial success of the commercial embodiments has been addressed in the previous declarations of March 27, 2007 and October 26, 2007. To summarize, the Applicant has provided the following evidence concerning the reasons for commercial success.

- The declaration of March 27, 2007 was accompanied by a letter from Tom Seifert, the Manager of Warehousing Strategy for Coca-Cola Enterprises Inc. That letter stated that a longstanding problem of clamping devices for handling soft drinks was the tendency of the pads of the clamping devices to pinch cartons because the angle of the pads could not be maintained constant. The new clamping device which was developed by the Applicant greatly reduced the problem of pinching and product

damage by maintaining the gripping pads of the clamping device at a constant angle to the side walls of the carton, regardless of the dimensions of the carton. As of November 2006, Coca-Cola had installed the new clamping device in over 50% of its warehouses that employ a clamping device. (It is believed that the other 50% continued to use the previous model of clamping device sold by the Applicant, since Coca-Cola has been using clamping apparatuses manufactured by the Applicant almost exclusively). The new design is used exclusively in all new installations or when replacing older clamping devices.

- The declaration of October 26, 2007 was accompanied by a letter from Robert L. Ferguson, Vice President of Fleet Operation for G&J Pepsi-Cola Bottlers, Inc. That letter indicated that G&J Pepsi-Cola had been using the old model of clamping apparatus sold by the Applicant since 1997. That clamping apparatus had a tendency to gouge or pinch the product, particularly in the case of fridge packs, because the angle of the gripping pads of the clamping apparatus was not controllable. In 2004, G&J Pepsi-Cola tried the Applicant's new model of clamping apparatus which had a four-bar linkage for controlling the angle of the gripping pads. The new design solved the problem of pinching and gouging, so G&J Pepsi-Cola replaced their four existing units with the new design of clamping apparatus and purchased another six units of the new design.

- The declaration of October 26, 2007 is also accompanied by a letter from Joseph Hurley, Senior Director of Supply Chain for Giant Eagle, Inc., which is a supermarket chain in the Pittsburgh

area. The letter indicates that prior to 2003, the Applicant lent Giant Eagle the old model of the clamping apparatus sold by the Applicant for use on a trial basis. The old model was found to be unsatisfactory because the angle of the clamp pads could not be controlled, so the clamp pads could damage a load by pinching or stabbing. In addition, the old model had the problem that a load could sometimes collapse from the center out. Therefore, Giant Eagle decided not to purchase a clamping apparatus at that time. In 2003, the Applicant showed Giant Eagle the new model of a clamping apparatus according to the present invention in which the angle of the clamp pads could be controlled by a four-link mechanism. The new model solved all the problems experienced with the old model, and Giant Eagle purchased two units of the new model according to the present invention.

Although these letters represent just a small sample of the purchasers of the commercial embodiments of the present invention, they consistently show that there were problems with the old model of the clamping apparatus because of the inability to control the angle of the clamping pads, and that the reason why these customers have been purchasing the Applicant's clamping apparatus is on account of the feature that the angle of the clamping pads of the clamping apparatus can be controlled as the clamping arms pivot with respect to the frame of the clamping apparatus. This feature of the invention is described in independent claims 62 and 95 in terms of the four-bar linkage which provides the control of the angle of the contact portions,

and it is described in independent claim 96 in terms of the maximum change in the angle of the contact portions of the clamping arms as the separation between opposing contact portions varies.

Other issues which the Applicant has addressed in previous declarations include the following:

Advertising: Page 10 of the declaration of March 27, 2007 indicates that the advertising for the Applicant's product has been very modest, so the increased sales of the commercial embodiments of the present invention cannot be attributed to an advertising campaign.

Sales force: Page 10 of the declaration of March 27, 2007 indicates that the Applicant has no dedicated sales force and that all marketing is handled on a part-time basis. Therefore, the increased sales cannot be attributed to an intensive sales effort.

Market power: As indicated on page 10 of the declaration of March 27, 2007, the assignee of this application, which manufactures a clamping apparatus described by the claims of this application, is a tiny company with only 8 employees. It has no market power to force customers to buy its product.

Price: As set forth on page 5 of the declaration of October 26, 2007, the price of the clamping apparatus described by the claims of this application is substantially the same as the price of the old model sold by the assignee. As set forth on page 11 of the declaration of March 27, 2007, the price of the clamping apparatus is also higher than that of the closest competing

product. Therefore, the commercial success and the very high market share enjoyed by the Applicant's product cannot be attributed to price reductions or undercutting of competitors.

Concerning above-mentioned issue (2), i.e., the need to show that commercial success of the applicant's invention was not attributable to factors such as a lack of appreciation for the marketability of such a device in the soft drink, beer, and grocery industries rather than the lack of the technical knowledge necessary to construct the device, page 9 of the declaration of October 26, 2007 identifies a U.S. patent filed over 30 years ago (U.S. Patent No. 4,252,496) showing a realization of the marketability of a clamping device for handling soft drinks, beer, or other bottled products. Additional evidence of the appreciation of the marketability of such a device can be found in Williams U.S. Patent No. 5,253,974 (a grapple clamp for handling cases of soft drinks), Richardson U.S. Patent No. 5,161,934 (a handling apparatus for cases of beer, for example), Vasseur U.S. Patent No. 4,603,896 (a gripping head which is shown gripping bottles), and Seaberg U.S. Patent No. 6,135,704 (layer-picking clamp supported on a fork lift). A layer picker which corresponds to the Seaberg patent has been marketed by the Cascade Corporation for use in handling beverages since at least 2000. There has clearly been an active effort by those skilled in the art to develop clamping apparatuses suitable for the beverage industry, including the beer and soft drink industries.

Concerning above-mentioned issue (3), i.e., whether the commercial success of the present invention was due to factors such as incentives or other marketing strategies or a "newness" factor, the Applicant has addressed the issue of incentives on pages 8 and 9 of the attached declaration. As set forth on those pages, the Applicant does not provide any incentives for the purchase of his clamping apparatus other than small discounts for the purchase of multiple units or for purchase of a unit for resale. Such discounts are small in amount, standard in the industry, and the same as those offered with respect to the Applicant's old model of clamping device, which had much less commercial success. Items of nominal value such as baseball caps and t-shirts may be given to purchasers after delivery of a purchased unit at the time of on-site training. As such, the Applicant clearly has not provided any incentives to which the increased sales of the commercial embodiments can be attributed.

The Examiner will appreciate that given the current state of mind-reading technology, it is impossible to determine what was going through the mind of a customer when he purchased the Applicant's clamping apparatus, and therefore it is impossible to show with scientific certainty that the sales of the commercial embodiments of this invention could not have been due to a "newness" factor. Nevertheless, the Applicant has provided circumstantial evidence on pages 4 - 5 and 9 - 11 of the attached declaration to show why it is reasonable to assume that the increased sales of the Applicant's clamping apparatus are attributable to the technical merits of the clamping apparatus

and not to mere "newness". Pages 4 and 5 of the attached declaration contain a comparison between the old model of a clamping apparatus sold by the Applicant (the TC-500, shown in Attachment D) and the new model of the clamping apparatus (the TC-600 shown in Attachments A - C). It can be seen that both models are very similar in appearance. As set forth on page 5 of the attached declaration, the new model has the same size, the same weight, the same lifting capacity, the same operating speed, essentially the same price, the same manner of control, and the same color scheme as the old model. Despite the rhetorical flourish "the All New Tygard Claw" on the front page of the advertising brochure shown in Attachment A, there is very little in the way of immediately apparent differences to differentiate the old model from the new model of the clamping apparatus and thus virtually nothing in the way of a "newness" factor.

As further set forth on page 7 of the attached declaration, sales since 2003 of the new model of clamping apparatus according to the present invention have remained 37% to 68% higher than the highest level of sales for the old model of clamping apparatus, and as set forth on page 10, there was been no precipitous drop in sales as would be expected if mere "newness" were driving sales. The clamping apparatus described by the claims of the present application is now in its 6th year of sales, and yet the current year (2008) is expected to be the best sales year yet. Based on all of this evidence, a "newness" factor can be dismissed as a caused of the increased commercial success of a clamping apparatus according to the present invention.

On page 6 of the Official Action, the Examiner remarked that the percentage increase in sales of the old product between 2000 - 2002 was greater than the percentage increase in sales of the new product from 2003 - 2006. It is not clear which periods of time the examiner is comparing, and it is not clear what the relevance of comparing the percentage increase in sales. A more pertinent comparison is believed to be between the level of sales for the old model (2000 - 2002) and the level of sales for the new model according to the present invention (2003 - 2008). As noted above and as shown in the table on page 6 of the Applicant's declaration, in any year, the sales for the new model have been far higher than the sales for the old model. There was a sharp spike in sales when the new model was introduced in 2003, and sales since then have never fallen below the level for 2003.

Concerning a possible "newness" factor, it is important to keep a number of additional facts in mind. One is that the present invention is not a consumer product; rather, it is a piece of industrial machinery for use in industrial settings. It is certainly true that there are new items of consumer electronics - new cell phones, iPods, flat panel televisions - for which young men will sleep out overnight on the sidewalk in order to be the first to own the new product. The sales of such items are probably driven to a considerable extent by a "newness" factor as well as the fact that these items can be a fashion statement. However, if one sees the environments in which the clamping apparatus of the present invention is employed and the persons who own and operate the equipment, one immediately

realizes that a clamping apparatus has zero in the way of fashion cachet, and that no one is making a purchase because he wants to be the first person on his block to own a clamping apparatus.

It is also important to remember that the Applicant has been marketing a clamping apparatus which is very similar to the present invention to the very same industries since 1994. The concept of a clamping apparatus and indeed most of the features should not be new to any of the purchasers who have contributed to the commercial success of the present invention. There is no reason to think that a "newness" factor is in any way driving the sales of the present invention.

In summary, it is believed that the new declaration of commercial success attached to this response provides convincing objective evidence that the present invention is not obvious and that all the obviousness rejections of the claims should be withdrawn.

Claim 83 was allowed, and claims 64, 75, 76, and 94 were objected to as depending upon a rejected base claim (claim 62). For the reasons given above, it is believed that claim 62 is allowable. Claims 64, 75, 76, and 94 are therefore allowable as depending from claim 62.

New claims 104 - 107 describe additional features of the present invention. These claims are allowable as depending ultimately from claim 62. New claim 104 states that the lever

arm and the control rod of each clamping arm move in spaced parallel planes when the clamping arm pivots with respect to the frame. New claim 104 is supported by, for example, Figure 4 of the drawings which shows that the control rods 140 are offset from the level portion 121 of a clamping arm 120 so as to move in separate planes from the lever portion 121.

In Pierre, for example, the links forming a parallel link assembly are disposed one behind another so as to swing in the same plane, like links 9 and 10 or 13 and 14 in Figure 1 of Pierre. However, by having the control rod and the level portion of each clamping arm of claim 104 move in separate planes, it becomes possible for the control rod and the lever portion to overlap each other or even to be nested with respect to each other. For example, as shown in Figure 4 of the present application, the control rod 140 of each of the left and right clamping arms 120 in the figure overlaps the lever portion 121 of its clamping arm 120 in the left and right directions in Figure 4. As a result, the control rod 140 and the lever portion 121 of a clamping arm 120 can be placed side by side rather than one behind the other. This reduces the footprint of the clamping apparatus, enabling it to operate in more crowded spaces.

New claim 105 states that a line which is parallel to the pivoting axes of a control rod of a clamping arm can pass through the control rod and the lever portion of the clamping arm. This claim describes geometrically a situation in which the control rod 140 and the lever portion 121 of a clamping arm 120 overlap each other in the horizontal direction when viewed in a direction

parallel to the axis of pivoting of the control rod, like the clamping arms 120 on the left and right sides in Figure 4. As stated above, this overlap of the control rod 140 and the lever portion 121 provides a compact arrangement and reduces the footprint of the clamping apparatus.

New claim 107 states that the lever portion and the control rod of a clamping arm each have a lower axis of pivoting, and that a plane which contains both lower axes of pivoting passes through a region of the contact portion of the clamping arm which contacts a side of a layer to be lifted. Claim 107 describes the phenomenon that a line which passes through axis 147 and axis 148 of each clamping arm 120 in Figure 4 passes through the contact surface of contact portion 130. By positioning the pivoting axes 147 and 148 of the control rod 140 and the lever portion 121 with respect to the contact portion 130 in this manner, the axial forces acting on the control rod 140 of a clamping arm 120 when the contact portion 130 is pressed against a load can be minimized. This enables the stiffness of the control rod 140 to be much less than the stiffness of the lever portion 121. Consequently, the control rod 140 can be of much lighter construction than the lever portion 121. In contrast, in a device like that disclosed in Pierre, the lower pivotal axes of arms 9 - 16 are displaced far above the hook-like portions 5 - 8 which contact a load. A load applied to the hook-like portions 5 - 8 generates a moment which must be resisted by the arms 9 - 16 and which can produce large axial forces in the arms 9 - 16. In order to prevent buckling of the arms 9 - 16 due to these axial

forces, each of the arms in a pair of arms (such as arms 9 and 10 or arms 11 and 12) must have a high stiffness. The arrangement set forth in claim 107 therefore permits a lighter structure.

In light of the foregoing remarks, it is believed that the present application is in condition for allowance. Favorable consideration is respectfully requested.

Respectfully submitted,



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Attachments:

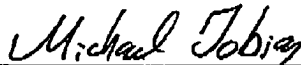
declaration under 37 CFR 1.132 by Ed Tygard

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Michael Tobias